

### CLAIMS

1. A method for transmitting digital messages through output terminals (22) of a monitoring circuit (18) integrated to a microprocessor (12), digital message being representative of first specific events depending on the execution of an instruction sequence by the microprocessor, characterized in that it comprises the steps of:

- transmitting to the monitoring circuit through dedicated accesses a request signal (Rq) for the sending of a message associated with a specific event from among second specific events independent from the execution of the instruction sequence by the microprocessor and a signal of characteristic data (DATA) associated with said specific event;

- having the monitoring circuit read said request message and, if resource management conditions are fulfilled, transmitting through a dedicated access an acknowledgement message (Ack) and storing said characteristic data signal; and

- transmitting a digital message representative of the stored characteristic data signal.

2. The method of claim 1, in which the resource management conditions are fulfilled when the monitoring circuit (18) is not transmitting messages representative of the first specific events.

3. The method of claim 1, in which the digital message representative of the stored data signal comprises an identifier and the characteristic data signal (DATA).

4. The method of claim 1, in which the characteristic data (DATA) signal corresponds to the values on input terminals (16) of the microprocessor (12).

5        5.     A device for transmitting digital messages between a monitoring circuit (18) integrated to a microprocessor (12) and an analysis tool (24), first digital messages being representative of first specific events depending on the execution of an instruction sequence by the microprocessor, characterized in that it comprises:

         means (26) for detecting a specific event from among second specific events independent from the execution of the instruction sequence by the microprocessor;

10           means (26, 34) for transmitting a request for transmitting to the monitoring circuit, when a specific event is detected, a request signal (Rq) and a characteristic data signal (DATA) associated with said specific event

         and in that the monitoring circuit comprises means for storing the characteristic data signal provided by the request transmission means, means for transmitting to the request transmission means an acknowledgement signal (Ack) when the characteristic data signal is stored, and means for transmitting a  
15        digital message from said stored characteristic data signal.

20        6.     The device of claim 5, in which the detection means (26), the request transmission means (26, 34), the monitoring circuit (18), and the microprocessor (12) are integrated in a same chip (10).

         7.     The device of claim 5, in which the detection means (26) is connected to input terminals (16) of the microprocessor (12).